Plant Pathology Circular No. 57
May 1967

Florida Department of Agriculture
Division of Plant Industry

BACTERIAL LEAF SPOT OF CHRYSANTHEMUM

C. Wehlburg, Plant Pathologist

A bacterial disease of chrysanthemum was first described by Bolick (1) in 1960 and named bacterial bud blight. The causal organism was studied and compared with other bacteria, but no definite identification was made. The disease occurred near Stuart, Florida, and was limited to one farm of about 5 acres. McFadden (2) in 1961 studied material from the same source and identified the bacterium that caused the disease as Pseudomonas cichorii (Swingle) Stapp. He considered the leaf symptoms as the most typical for the disease, which he called bacterial leaf spot.

It is not known whether the disease spread from Stuart to other parts of the state or if it was already present but unrecognized. Presently it can be found in many chrysanthemum plantings where it may cause a serious disease problem.

SYMPTOMS. The disease is characterized by more or less circular, dark brown to black leaf spots. These spots increase in size to almost 0.5 inch in diameter and may show characteristic zones of darker and lighter tissue. Often several spots unite and form large, irregular lesions both along the leaf margins and in the middle of the leaf blade. The spots are black under moist conditions and dark brown when dry (Fig. 1). Usually only the lower leaves are affected, but sometimes the disease spreads to the higher leaves and the flower buds. Bud blight is characterized by a blackening of the bracts, followed by a collapse of the peduncle.

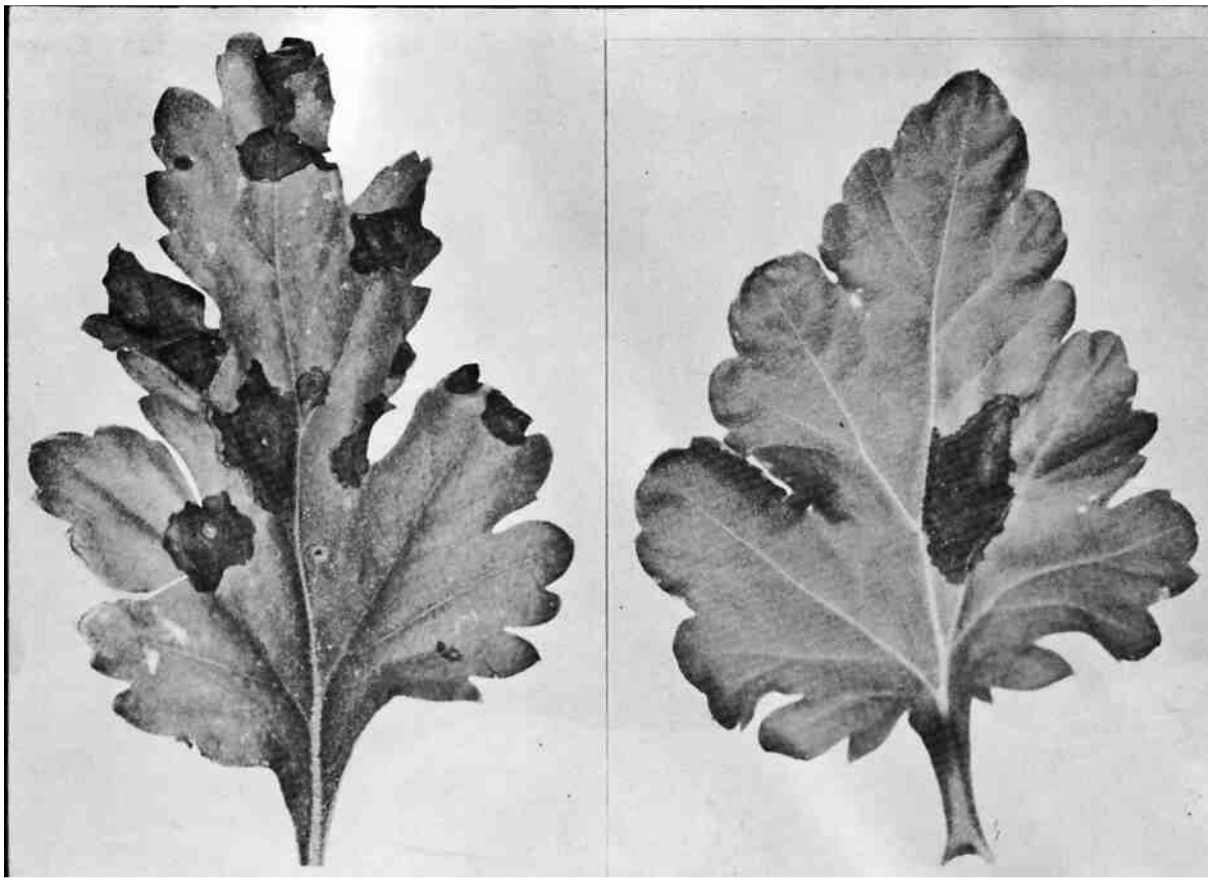

Fig. 1. Chrysanthemum leaves affected by bacterial leaf spot.

Pseudomonas cichorii has a wide host range and has been described as a parasite on cabbage (4), celery (3), and several genera of the Araceae, of which Aglaonema, Philodendron and Scindapsus are very susceptible (5).

CONTROL. A combination of 4 lb tribasic copper sulfate and 1.5 lb maneb in 100 gal water applied weekly has shown promise in controlling the disease caused by P. cichorii on vegetable crops and on chrysanthemums. According to the experience of some nurserymen, copper sprays may cause chrysanthemum leaves to become brittle. The amount of tribasic copper sulfate per 100 gal water could presumably be lowered to 2 lb, thereby possibly reducing the risk of producing undesirable effects on the leaves but still protecting them from bacterial infection.

Literature Cited

1. Bolick, J. H. 1960. Bacterial bud blight of chrysanthemum. Proc. Florida State Hort. Soc. 73:346–351.
2. McFadden, L. A. 1961. A bacterial leaf spot of florists' chrysanthemums, Chrysanthemum morifolium. Plant Dis. Reptr. 45:16–19.
3. Thayer, P. L. and C. Wehlburg. 1965. Pseudomonas cichorii, the cause of bacterial blight of celery in the Everglades. Phytopathology 55:554–557.
4. Wehlburg, C. 1963. A bacterial spot of cabbage caused by Pseudomonas cichorii. Proc. Florida State Hort. Soc. 76:119–122.
5. Wehlburg, C., C. P. Seymour, and R. E. Stall. 1966. Leaf spot of Araceae caused by Pseudomonas cichorii (Swingle) Stapp. Proc. Florida State Hort. Soc. 79:433–436.